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THE RESTORATION OF A LOWER EYELID BY A NEW METHOD.

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I RECENTLY had a case at the Boston City Hospital where as a result of operation for malignant disease it was necessary to supply a new lower eyelid. I employed a method quite new, so far as I know, in many of its details, although the main principle upon which it rests was originally suggested to me by an article by Dr. Theodore Dunham, of New York, recommending the use of flaps from the scalp for covering certain facial defects.[1] Dunham had a patient with a large defect in the side of the nose and cheek, which defect he covered with a long flap taken from the scalp. He took care that the flap should include the anterior branch of the temporal artery and the veins with it. Some days later when the flap had firmly united to the edges of the defect he dissected out the vessels in the pedicle and buried them beneath the underlying skin of the cheek, after which he returned the skin and other tissues of the pedicle back to the place they came from in the forehead. The flap itself continued to be nourished by the vessels of the pedicle buried beneath the skin of the cheek. This ingenious operation, suggested and first employed by Dunham, is of course only applicable to persons who are bald over that part of the scalp where the artery runs.

[1] See Annals of Surgery, 1892.

The patient to whom I referred at the beginning of this article was sent to me by Dr. E. E. Jack. The man had an epithelioma on both lower eyelids. He was especially desirous that the one on the right side be entirely removed, as it was the larger of the two, and was growing quite rapidly.

Fig. 1.

When it came to the operation I found that the disease had extended backwards well into the soft tissues below the eyeball, and I therefore found it necessary to remove not only the entire lower eyelid but also a good deal of the tissue in the immediate vicinity, leaving a large defect under the eyeball. I had determined beforehand, as the man was bald, to make a

new lower eyelid out of a small bit of the scalp, and to utilize the anterior branch of the temporal artery to nourish it, as Dunham had suggested, but in a somewhat different way.

Having ascertained by pulsation the exact course of the artery in its whole extent, I then marked out with

Fig. 2.

the knife near the end of the artery a crescentic piece like a lower eyelid, but a little larger. I further marked out — also with the knife — a straight line indicating the general course of the artery from the temple to the new eyelid (see Fig. 1).

The subcutaneous tissues containing the artery, veins, etc., were now dissected out up to the new eye-

lid (see Fig. 2), so that they were completely freed from the underlying tissues. The eyelid comprising the entire thickness of the scalp was then cut out, great care being used lest the vessels of the pedicle be injured at a point where they joined the eyelid. I now had hanging from the region of the temple a long

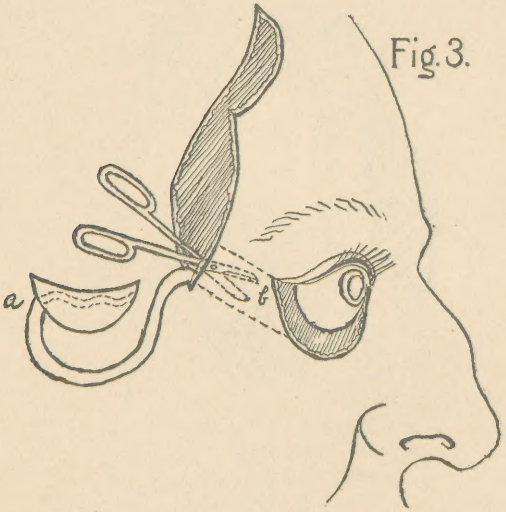
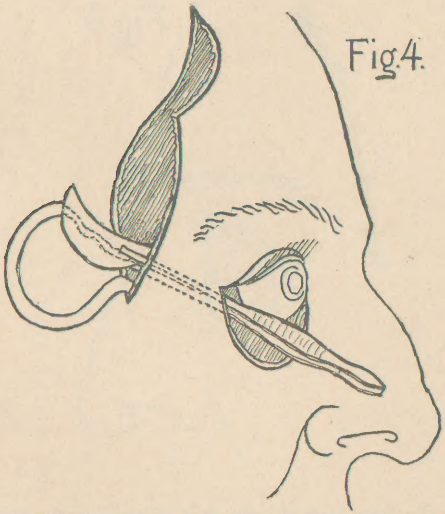


Fig. 3.

pedicle of subcutaneous tissue containing the artery, and attached to the end of it a crescentic bit of tissue of the full thickness of the scalp and covered with skin (see Fig. 3, *a*). All through the long pedicle and in the new eyelid at the end of it the beating of the artery could be distinctly felt.

From a point of the temple, near the proximal end

of the pedicle, I now tunnelled under the skin with the scissors until I reached the defect under the eyeball, left by the removal of the lower lid. This subcutaneous tunnel is shown in Fig. 3 (*b*). The new eyelid was then drawn by forceps through the tunnel (see Fig. 4), brought into the gap beneath the eyeball, and stitched in position (see Fig. 5.)



The new eyelid was now in proper position and covered the defect entirely. I had little fear that it would slough, for, even when it was in place, the strong pulsation across it from end to end was sufficiently reassuring. The wound in the scalp was sewed up, with the exception of a small area at the upper end of it, which was left to granulate.

The eyelid did not slough, but healed kindly in its new bed. Subsequent contraction caused some bulging of the flap and also a slight displacement outwards, the latter being due to extreme contraction of the pedicle; but as a whole the operation was success-

Fig. 5.

ful, for the flap completely and permanently filled up the gap, while the scarring of the face was insignificant. I do not know whether there has been any recurrence of the epithelioma, for the man left the hospital about six weeks after the operation, and I have not seen him since.